CLAIMS

1. A device for multiplexing a first stream of data comprising a set (500) of current data frames (60) coming from a mobile telecommunication network with a second stream of data including IP datagrams coming from the Ethernet network, said frames (60) having a structure defined by a plurality of time slots, each time slot of a first group of time slots being subdivided into a plurality of information bits carrying a respective communication channel,
which multiplexing device is characterized in that it comprises:

- a compressor (301') adapted to provide a compressed data block (ACD, CAC) representative of the varying channels,

- the bandwidth assigned for a given transmission link being predetermined, prediction means (110) for predicting the available bandwidth, known as the margin, taking account of the band occupied for the transmission of said compressed data block, and

- formatting means (106) for subdividing and inserting at least one section of IP datagrams instead of the time space corresponding to the available bandwidth.

2. A device according to claim 1, characterized in that it comprises memory means (109) for storing at least one IP datagram to prevent congestion of datagrams caused by short-term variation of the available bandwidth.

3. A device according to claim 1 or claim 2, characterized in that the compressor comprises:

- analyzer means (36, 361, 362, 363) for analyzing the active or static state of at least one channel in an analysis window (70) of current frames (60), the active state, respectively static state, of said channel being assigned to it if comparing the content of said channel in the N bits compared between the N frames of a reference pattern (71) comprising the N frames preceding the set (500) of current frames with the corresponding N bits of the N frames of the analysis window shows a variation of the content for at least one of the bits, respectively a stability of the content for all the N bits, where N is an integer greater than or equal to 1,

- extraction means (37, CAC) for extracting the content of the active channels of the analysis window as a function of the active states of the bits supplied by said analysis means,

- location means (41, ACD) adapted to provide indications of the location of

said active and static bits in the current frame as a function of the active and static states of the bits supplied by said analysis means, and

- grouping means (40) for grouping at least one identifier of the current block, of the content of the active bits, and of their respective location within a data block (44') to be sent.

4. A demultiplexing device, characterized in that, being adapted to demultiplex a compressed data block (44") comprising a compressed block (ACD, CAC) and at least one IP datagram section, the demultiplexing device includes deformatting means (150) for extracting the IP datagram sections and concatenating them in order to direct them to the Ethernet network and data decompression means (302') adapted to reconstitute the active and static channels.

5. A multiplexing/demultiplexing system characterized in that it includes a multiplexing device according to any one of claims 1 to 3 and a demultiplexing device according to claim 4.